ARVIN COMMUNITY SERVICES DISTRICT
ARVIN, CALIFORNIA

2015
URBAN WATER MANAGEMENT PLAN

Prepared By:

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ARVIN COMMUNITY SERVICES DISTRICT

ARVIN, CALIFORNIA

2015 URBAN WATER MANAGEMENT PLAN

INDEX

CHAPTER 1

INTRODUCTION AND OVERVIEW

Purpose

This 2015 Urban Water Management Plan ("UWMP" or "Plan")) is an update of the 2010 Plan. UWMPs are required to be filed with the Department of Water Resources in the years ending with a five and a zero, in accordance with Section 10621 of the California Water Code ("CWC"). The Arvin Community Services District's ("ACSD" or "District") 2015 UWMP addresses the following requirements of the CWC. The UWMP is to provide:

- A description of the service area of the District
- The current and projected population of the District
- A description of the climate and other demographic factors that affect water management
- Identification of the existing and planned water resources of the District
    - Groundwater management plan prepared by the Arvin-Edison Water Storage District ("AEWSD") – which is the underlying water purveyor in the area
    - Description of the groundwater basin and groundwater levels
    - The participation of ACSD with AEWSD in its groundwater management program
    - The location, amount of groundwater pumped in the last five years and sufficiency of the supply
    - A description of the groundwater supply and a projection of the groundwater demands for the next 20 years
- A description of the reliability of the groundwater supply and its vulnerability to seasonal or climactic shortage
- A statement addressing the consistency of the District's water supply
- A discussion of the District's demand management measures
- A description of the District's anticipated water supply projects
- The District's water use projections
- Water use projections for lower income families
- The District's water shortage contingency plan
- A water supply reliability assessment

CHAPTER 2

PLAN PREPARATION

2.1 PUBLIC PARTICIPATION

Arvin Community Services District prepared this Urban Water Management Plan with input from the community at a public hearing held on August 1, 2016. This plan reflects information current as of December 31, 2015. The plan was adopted by the District's Board of Directors on August 1, 2016.

2.2 AGENCY COORDINATION

ACSD sent copies of this plan to the City of Arvin, the County of Kern, Arvin Edison Water Storage District, and the Kern County Water Agency ("KCWA").

ACSD encourages public participation in all of its planning efforts by having semi-monthly Board of Director's meetings which are open to the public. All District policies are set by the Board at these semi-monthly meetings. The UWMP was available for review in the District's office before the public hearing in August. Water users were notified of the UWMP's availability for review by legal notice in the local newspaper. ACSD water users had access to the plan for review before it was approved and adopted.

AEWSD, which ACSD is located within, reviewed and provided comments to the administrative draft of this UWMP.

Table 1
Coordination with Appropriate Agencies

Agencies	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved / No information
KCWA					X		
AEWSD					X		
City of Arvin					X		
County of Kern					X		

2.3 IMPLEMENTATION

This initial UWMP will be implemented on the day that it is adopted by the District's Board of Directors.

CHAPTER 3

SYSTEM DESCRIPTION

3.1 DESCRIPTION OF THE SERVICE AREA

ACSD was created in 1957 for the purpose of providing domestic water to the citizens of the City of Arvin and to a lesser extent, to lands outside the City boundary. ACSD is regulated by the State Water Resources Control Board, Division of Drinking Water. Over 95% of the service area population is within the City of Arvin. The District is Public Water System No.1510001.

The current service area encompasses approximately 5 square miles within the City of Arvin, together with a few small residential tracts and individual services that are located in the County of Kern. The District is situated at the south end of the San Joaquin Valley, approximately 110 miles north of Los Angeles and 290 miles south of San Francisco. It is about 5 miles west of the foot of the southern end of the Sierra Nevada Mountain chain, which mountains are also known as the "Tehachapis".

The District experienced a rapid population growth in the first 8 years of the first decade of the 21st century. However this growth slowed over the last two years of the decade. Presently, new residential services are added to the system as subdivisions slowly build out.

The ground surface within the service area slopes gently downward from east to west (about 5 feet across the City) and about 50 feet downward from north to south. Ground surface elevations in the ACSD Service Area are about 400 feet MSL.

The climate is typical of the lower San Joaquin Valley. Summers are normally hot and very dry with temperatures often exceeding 100°F. Winters are cool with temperatures ranging from 40°F to 60°F, occasionally dropping below 32°F. Winter months commonly have night and morning fog.

Average annual rainfall ranges from 6 - 7 inches with most rainfall occurring between November and April. Predominant winds during the winter are less than 10 mph from the northwest. High winds occasionally occur through the year producing dust storms.

Table 1
Climate Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly Avg. Eto (in)	1.25	2.07	3.85	5.69	7.48	7.98	8.23	7.40	5.78	4.11	2.04	1.18	57.06
Avg. Rainfall (in)	1.06	1.18	1.11	0.67	.22	0.07	0.01	0.04	0.10	0.30	0.59	0.86	6.21
Avg. Temp. (° F)	47.9	52.8	57.2	62.9	70.4	77.7	83.8	82.1	76.9	67.3	55.6	48.0	-

The land uses within the District are primarily residential with commercial activities generally centered along the main street of the town. Agricultural commodity processing and packing plants located along the east side of the city. There are several parks located throughout the District, one high school, two junior high/middle schools, a vocational school, and two elementary schools.

The District has the following classes of service accounts (percentages are approximate):

1.) Single Family Residential (92%)
2.) Multi-Family Residential (2%)
3.) Commercial / Institutional (4%)
4.) Industrial (0.5%)
5.) Landscape Irrigation (0.5%)
6.) Other (less than 0.1%)

Table 2
Standard Table 2-1 Agency Identification

Table 2-1 – Agency Identification			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015 (mg)
1510001	Arvin Community Services District	3,776	635
	TOTAL	3,776	635
NOTES: Deliveries for 2015 were below the normal amounts because of the drought.			

This Plan is an individual Urban Water Management Plan – prepared by the District and its consultants. The Plan is an update of the 2010 UWMP and is intended to comply with the 2015 UWMP Guidelines for individual plans.

Table 3
Standard Table 2-2 Plan Identification

Table 2-2 – Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance**
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		

Table 4
Standard Table 2-3 Agency Identification

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
☐	Agency is a wholesaler
☑	Agency is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (select from Drop down)	
Unit	MG

Table 5
Standard Table 2-4 Information Exchange

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
ACSD does not receive water from a wholesale supplier

2015 District Population was determined by the DWR Population Tool, which uses U.S. Census data. District population has grown at a rate of about 3.0% over the past 15 years. This is projected to continue in the future. The number of connections over the same period has increased at a rate of about 2.6%. This indicates a slight increase in the number of persons per connection.

Table 6
Standard Table 3-1 Population

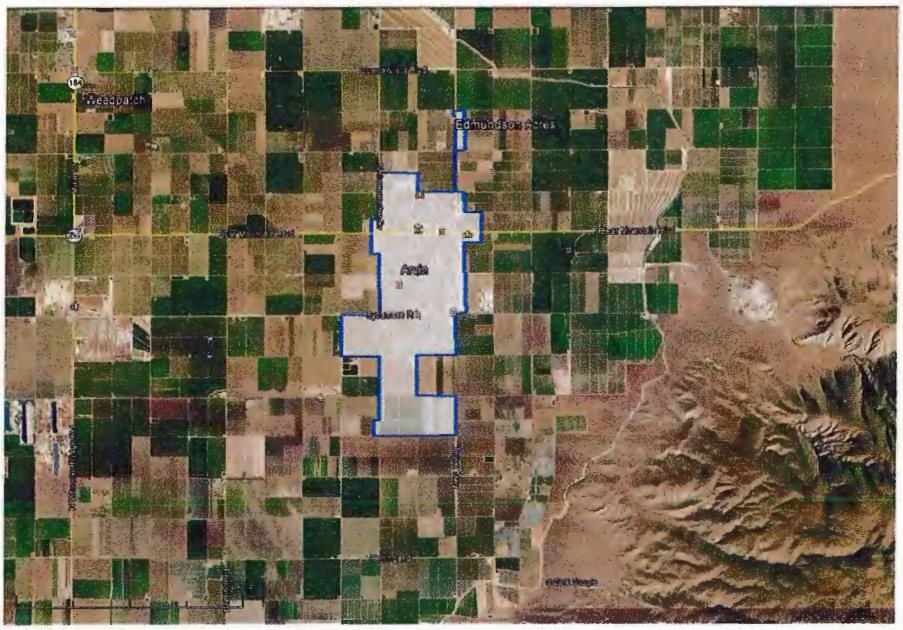
Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	21,563	25,000	29,000	33,500	39,000	45,000
Data from U. S. Census population estimates. Population of the City of Arvin plus Edmundson Acres (County). 95% of ACSD's service area is within the City.						

3.2 SERVICE AREA

The District serves the City of Arvin and some small areas within the County, primarily Edmundson acres – which was added to the Districts' service area in 2010. The 2015 population, determined by the DWR Population Tool, is estimated to be 21,563.

The community is classified as a Severely Disadvantaged Community with a Median Household Income of $35,359.

The 2010 UWMP used population data from the State of California Department of Finance. This update uses population developed by the DWR Population Tool. The following is a depiction of the 2015 Service Area used for the population determination.



Note the groundwater recharge ponds to the east (right) of ACSD's service area. These recharge ponds are operated by Arvin Edison Water Storage District (see Chapter 6, Water Supply).

CHAPTER 4

SYSTEM DEMANDS

4.1 WATER USE

ACSD Service Area

The number of connections within ACSD's service area has gradually increased over the past years. However, the growth in water deliveries has been at a slower pace, and this is illustrated by Table 7, which sets forth historic water production and water deliveries for 2001 – 2015. All values in the following tables are in million gallon (mg) units.

Table 7
Historic Water Production and Deliveries

	Number of Connections	Water Production (mg)	Water Deliveries (mg)
2001	2,624	840	699
2002	2,758	875	735
2003	2,829	928	751
2004	2,892	940	750
2005	2,996	895	744
2006	3,194	981	815
2007	3,390	1,035	776
2008	3,448	946	781
2009	3,497	1,039	815
2010	3,564	960	749
2011	3,598	918	739
2012	3,631	934	784
2013	3,632	980	793
2014	3,703	915	805
2015	3,776	635	577

4.2 WATER DEMAND PROJECTIONS

The following Table 8 presents the projected potable water demands for the years 2020 – 2040. These projections are based on the population projections, the 2020 Target GPCD of 127, and the historic water use by sector. About 92% of the water delivered is to single family residential connections. SB X7-7 requires urban water suppliers to reduce water use by 20% by 2020, and for half of that savings to be achieved by 2015 (CWC 10608.24)

Table 8
Standard Table 4-2 Demands for Potable Water

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type	Additional Description	Projected Water Use *(mg)*				
		2020	2025	2030	2035	2040-opt
Single Family		696	804	930	1,080	1,254
Multi-Family		80	95	107	124	144
Industrial		31	36	42	48	56
Landscape		32	37	43	50	58
Other	Includes Comm./Inst.	103	118	137	159	184
Losses		218	250	291	339	394
	TOTAL	1,160	1,340	1,550	1,800	2,090
NOTES: Projected Water Use based on the population projection and the 2020 Target GPCD of 127 gpcd. Water losses are based on the historic loss percentage, which includes metering discrepancies, line breaks, and other losses. The District will work to reduce future losses.						

Table 9
Standard Table 4-3 Total Water Demands

Table 4-3 Retail: Total Water Demands (mg)						
	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	635	1,160	1,340	1,550	1,800	2,090
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	635	1,160	1,340	1,550	1,800	2,090

The following Table 10 presents the results of the AWWA Water Audit. The Water Audit Worksheet is appended.

Table 10
Standard Table 4-4 Water Losses for 2015

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	62.367 (mg)
** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*	

There is a significant difference in the "Water Production" and the "Water Deliveries" in Table 7. The difference between the water produced and the water deliveries historically averages about 18% and is thought to be due to two principal causes: 1. pipe breaks, and 2. differences in the pump station meters and the individual service meters. It is suspected that the "losses" are not truly water that is "lost" but that a significant amount of the water loss is due to metering differences. The District is attempting to reduce the losses from the historic levels to about 12% in 2020 and about 3% by 2030. This will be achieved through meter testing and replacement of faulty meters, and through replacement of sections of District pipelines that exhibit a high failure rate.

Low Income Family water demands

The City of Arvin is classified as a Severely Disadvantaged, Low-income Community. About 37% of its families with children under 18 years of age are below the Federal Poverty Level of $24,250 for families of 4 and $28,410 for families of 5. The average home occupancy in Arvin is 4.5 persons per household (2010 U. S. Census data). The average population per District connection is about 5.5 persons per connection, which includes apartment housing. Table 11 presents the estimated Low Income water demands.

Table 11
Estimated Low-Income Water Demands

Estimated Low Income Water Demand (mg)					
Low Income Water Demands[1]	**2015**	**2020**	**2025**	**2030**	**2035**
Single-family residential	151	258	297	344	400
Multi-family residential	23	30	35	40	53
Total	174	288	332	384	453

1. **Estimates based on the 2010 U.S. Census information for the community of Arvin. 37% of residents are below the Federal Poverty Level.**

Table 12
Standard Table 4-5 Inclusion in Water Use Projections

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	Yes
Citation of Codes, Legislation, references in this UWMP	SB X7-7, CWC 10608.24, Chap. 4, p. 12, of this UWMP
Are Lower Income Residential Demands Included In Projections?	Yes
The effects of the water use reductions required by SB X7-7 are included in the future projections. The community of Arvin is a severely disadvantaged community. It is estimated that 37% of the households in Arvin are below the Federal Poverty Level (2010 U.S. Census).	

CHAPTER 5

BASELINES AND TARGETS

The Water Conservation Act of 2009, requires each municipal water supplier to meet its interim water conservation target by December 31, 2015 (CWC 10608.24).

Methodology 3: Base Daily Per Capita Water Use was selected for the 2010 UWMP and that Methodology is used herein for the confirmation of the 2015 and 2020 Targets developed for the 2010 UWMP, and for the determination of the District's compliance with the 2015 Target. The updated calculations presented herein confirm the District's 2010 determination of the 2020 and 2015 Targets, and confirm that the District achieved its 2015 Target.

The baseline periods are listed below in Table 13. The District does not deliver recycled water to its constituents and therefore a baseline period of 10 years was used.

Table 13
Standard Table SB X7-7 Table 1 – Baseline Period Ranges

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	946	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	2001	
	Year ending baseline period range[3]	2010	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2006	
	Year ending baseline period range[4]	2010	

[1]If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.
[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

[3]The ending year must be between December 31, 2004 and December 31, 2010.

The DWR population tool (based on the U.S. Census) was used for the population determination for the 2015 UWMP, while Department of Finance numbers were used in the 2010 UWMP. Table 15 presents the 2015 population data and compares it to the 2010 population data.

Table 14
Standard Table SB X7-7 Table 2 – Method for Population Estimates

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review

Table 15
Comparison of Population 2010 UWMP & 2015 UWMP

Comparison of Population 2010 and 2015 UWMP for Baseline Years										
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
2010 UWMP	13,315	13,946	14,781	15,485	16,095	16,353	17,685	18,332	18,800	19,270
2015 UWMP	13,243	14,049	14,544	14,993	15,763	16,871	17,795	18,536	18,964	19,505

The following tables develop the SBX7-7 water use targets for 2015. The population projection for 2015 was determined from the Population Tool. The 2015 population is estimated to be 21,563 persons. Table 16 presents the population data used for the SB X7-7 determination.

Table 16
Standard SB X7-7 Table 3 –Service Area Population

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	2001	13,243
Year 2	2002	14,049
Year 3	2003	14,544
Year 4	2004	14,993
Year 5	2005	15,763
Year 6	2006	16,781
Year 7	2007	17,795
Year 8	2008	18,536
Year 9	2009	18,964
Year 10	2010	19,505
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2006	16,781
Year 2	2007	17,975
Year 3	2008	18,536
Year 4	2009	18,964
Year 5	2010	19,505
2015 Compliance Year Population		
2015		21,563

The historic water use is listed on Table 17.

Table 17
Standard SB X7-7 Table 4 – Annual Gross Water Use

SB X7-7 Table 4: Annual Gross Water Use								
Baseline Year		Volume Into Distribution System (mg)	Deductions					Annual Gross Water Use (mg)
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water	Water Delivered for Agricultural Use	Process Water	
10 to 15 Year Baseline - Gross Water Use								
Year 1	2001	840			-		-	840
Year 2	2002	875			-		-	875
Year 3	2003	928			-		-	928
Year 4	2004	940			-		-	940
Year 5	2005	895			-		-	895
Year 6	2006	981			-		-	981
Year 7	2007	1,035			-		-	1,035
Year 8	2008	946			-		-	946
Year 9	2009	1,039			-		-	1,039
Year 10	2010	960			-		-	960
10 - 15 year baseline average gross water use								944
5 Year Baseline - Gross Water Use								
Year 1	2006	981			-		-	981
Year 2	2007	1,035			-		-	1,035
Year 3	2008	946			-		-	946
Year 4	2009	1,039			-		-	1,039
Year 5	2010	960			-		-	960
5 year baseline average gross water use								992
2015 Compliance Year - Gross Water Use								
2015		635	-		-		-	635

Table 18
Standard SB X7-7 Table 4-A – Volume Entering the Distribution System

SB X7-7 Table 4-A: Volume Entering the Distribution System				
Name of Source	Groundwater			
This water source is:				
☑	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System (mg)	Meter Error Adjustment* *Optional* (+/-)	Corrected Volume Entering Distribution System (mg)
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2001	840		840
Year 2	2002	875		875
Year 3	2003	928		928
Year 4	2004	940		940
Year 5	2005	895		895
Year 6	2006	981		981
Year 7	2007	1,035		1,035
Year 8	2008	946		946
Year 9	2009	1,039		1,039
Year 10	2010	960		960
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2006	981		981
Year 2	2007	1,035		1,035
Year 3	2008	946		946
Year 4	2009	1,039		1,039
Year 5	2010	960		960
2015 Compliance Year - Water into Distribution System				
2015		635		635

Arvin is a Severely Disadvantaged Community. The MHI for Arvin is $35,349. The MHI for Non-Metropolitan Areas in California is $56,900 per year. However, since ACSD's process water deliveries are less than 1% of gross water use, and recycled water is not used in the District, SB X7-7 Standard Tables 4-B (Recycled Water Deduction), 4-C (Process Water Deduction Eligibility), 4-C.1, C.2 and C.3, and 4-D, are not included. However, Table 19, Standard SB X7-7 Table 4-C.4, is included below for information only.

Table 19
Standard SB X7-7 Table 4-C.4 – Process Water Deduction Eligibility

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility				
Criteria 4 Disadvantaged Community. A "Disadvantaged Community" (DAC) is a community with a median household income less than 80 percent of the statewide average.				
SELECT ONE **"Disadvantaged Community" status was determined using one of the methods listed below:**				
☐	1. IRWM DAC Mapping tool http://www.water.ca.gov/irwm/grants/resources_dac.cfm			
	If using the IRWM DAC Mapping Tool, include a screen shot from the tool showing that the service area is considered a DAC.			
☑	2. 2010 Median Income			
	California Median Household Income	Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
	2015 Compliance Year - Process Water Deduction Eligibility			
	2010 \$60,883	\$35,359	58%	YES

Note – Table 4-C.4: The 2015 MHI for Non-Metropolitan areas of California is $56,900.

Baselines and Targets

Table 20, Gallons Per Capita Per Day, develops the Average 5 Year Baseline GPCD, the Average 10 Year Baseline GPCD, and the 2015 Compliance Year GPCD. The 10 Year Average is 159 GPCD, the same as was calculated for the 2010 UWMP. The 5 Year Average is 149 GPCD, compared to 143 GPCD calculated for the 2010 UWMP. This is likely due to the difference in population between the 2010 UWMP DOF numbers and the 2015 UWMP Census Bureau numbers developed by the Population Tool.

Table 20

Standard SB X7-7 Table 5 Gallons Per Capita Per Day (GPCD)

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 (mg) Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	2001	13,243	840	174
Year 2	2002	14,049	875	171
Year 3	2003	14,544	928	175
Year 4	2004	14,993	940	172
Year 5	2005	15,763	895	156
Year 6	2006	16,781	981	160
Year 7	2007	17,795	1,035	159
Year 8	2008	18,536	946	140
Year 9	2009	18,964	1,039	150
Year 10	2010	19,505	960	135
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	

The following Table 21, develops the 2020 Target GPCD for the District.

Table 21
Standard SB X7-7 Table 7-A, 10 Year Baseline GPCD and 2020 Target GPCD for the District

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
159	**127**

The following Table 22 is from the 2010 UWMP and is included for reference only. The Target GPCD values have not changed from the 2010 Plan.

Table 22
Daily Per-Capita Water Use Targets from the 2010 UWMP

Daily Per Capita Water Use Targets from the 2010 UWMP	
Ten Year Average Per-Capita Water Use	**159 gpcd**
2015 Daily Per-Capita Water Use Target	**143 gpcd**
2020 Daily Per-Capita Water Use Target	**127 gpcd**

Table 23
Standard SB X7-7 Table 7-F, Daily Per-Capita 2020 Water Use Target from the 2015 UWMP

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
149	141	127	**127**

[1]Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.
[2]2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

Table 24
Standard SB X7-7 Table 8, Daily Per-Capita 2015 Water Use Target from the 2015 UWMP

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
127	159	**143**

The following Table 25, confirms the District's compliance with the 2015 Targeted Reduction.

Table 25
Standard SB X7-7 Table 9, 2015 Compliance

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
81	143	-	-	-	-	81	81	**YES**

The following Table 26 (Standard Table 5-1) is repetitive, however, it contains a summary of the Baseline Periods used to determine the Target values. Therefore it is included below. Standard Table 5-2 is a repetition of Table 25, above, and is not included herein.

Table 26
Standard Table 5-1 Baselines and Targets Summary

Table 5-1 Baselines and Targets Summary *Retail Agency or Regional Alliance Only*					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*2001*	*2010*	*158*	*143*	*127*
5 Year	*2001*	*2006*	*84*		
*All values are in Gallons per Capita per Day (GPCD)					
2015 water use reflected a much lower water use than normal due to the continuing drought.					

Water Use Reduction Plan

The City of Arvin is classified as a disadvantaged low-income community. The cost of water is a factor that governs water use. The District is 100% metered. Each residence is billed monthly according to its water use. The residents are more aware of their water costs than in more affluent communities, where the monthly water bill is a smaller part of the monthly budget. Therefore the community is involved in policing itself and residents frequently report to the Board about water waste in the community.

The District encourages water conservation through the measures detailed in Section 5, Water Shortage Contingency Planning. Additionally the District patrols the community and contacts residents that are wasting water. See Chapter 9, Demand Management Measures.

CHAPTER 6

SYSTEM SUPPLIES

6.1 WATER SOURCES

6.1.1 Groundwater

The District depends on groundwater for its water supply. The District is located in the Kern County sub-basin of the Tulare Lake Basin, within the Kern River Hydrographic Unit. Subbasin No. 5-22.14. This Subbasin has been identified as being a Critically Overdrafted Groundwater Basin.

The District's system is as follows:

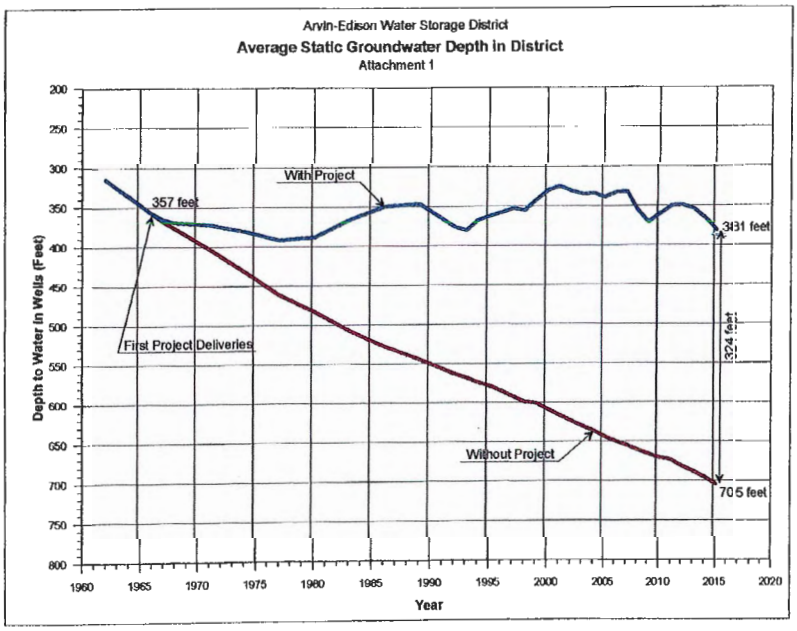
- Eight active water wells
- 0.5 million gallons of above-ground water storage with booster pumping plant

The total combined capacity of the wells is 6,650 gpm. The wells can produce at total of approximately 10,700 acre-feet per year. Actual water production is about 3,000 acre-feet per year.

ACSD is within the boundaries of AEWSD. ACSD landowners pay an annual groundwater benefit charge on their property tax bills to AEWSD due to the benefit that is derived from the importation of surface water by AEWSD. This has reduced reliance groundwater pumping for AEWSD and stabilized groundwater levels. AEWSD has been importing surface water into its service area since 1966. In addition, AEWSD also imports surface water for direct recharge into the groundwater basin via the District's recharge facilities. In addition to the stabilized groundwater levels, there is also a groundwater quality benefit since the bulk of the imported water originates in the Sierras and is imported via the Friant-Kern Canal. However, AEWSD also imports water supplies from the State Water Project (California Aqueduct) and the Kern River.

AESWD has contracts for and purchases surface water from the federal Central Valley Project ("CVP") Friant Division and operates groundwater recharge facilities covering nearly 1,800 acres, that benefit its entire approximately 132,000 acres, which includes ACSD. According to AEWSD's 2003 Groundwater Management Plan, AEWSD has been importing surface water into its service area since 1966. As of 2002, it had imported over 5,700,000

acre-feet of surface water, and had recharged approximately 1,608,000 acre-feet (net) of water to the groundwater basin through its 2002 Water Year (February 2003). Prior to AEWSD's project, groundwater levels were declining and groundwater overdraft was estimated at 126,000 acre-feet per year. Average static groundwater depths in 1966 were about 370 feet and without the AEWSD project, static water levels were projected to increase to 705 feet by the year 2015. With AEWSD's project, the average groundwater levels had stabilized and recovered to about 330 feet by the end of 2002. Since that time groundwater levels have decreased to an average depth of about 370 feet due to the recent drought. AEWSD's water project has clearly benefitted lands within its boundaries, including ACSD. This program has resulted in a reliable groundwater supply for the District. It should be noted that as a result of the San Joaquin River Settlement, AEWSD's supplies from the Friant Division of the CVP are being reduced, although the ultimate reduction after mitigation measures are implemented is not presently known. The following chart "Average Static Groundwater Depth in District" depicts the current groundwater conditions. AEWSD'S project has benefitted groundwater levels by reducing the amount of groundwater decline in the area. While groundwater levels have declined somewhat during the recent drought, it is ACSD's opinion that AEWSD's project has greatly improved groundwater conditions and therefore increased the reliability of the groundwater supply for ACSD and others.



The following Table 27 presents the volumes of groundwater pumped by ACSD in the years 2011 – 2015.

Table 27
Standard Table 6-1 Groundwater Volume Pumped

Table 6-1 Retail: Groundwater Volume Pumped (mg)						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basin	Kern County Subbasin No. 5-22.14	918	934	980	915	635
	TOTAL	918	934	980	915	635

The following Table 28, copied from Section 4 of this document, presents estimates of future groundwater demands in the District.

Table 28
Standard Table 4-3 Total Water Demands (Groundwater Demand)

Table 4-3 Retail: Total Water Demands (mg)						
	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	635	1,160	1,340	1,550	1,800	2,090
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	635	1,160	1,340	1,550	1,800	2,090

6.1.2 Surface Water

The District has no access to wholesale surface water. It is distant 30 miles from the nearest water treatment plant (ID4's Henry Garnett Water Purification Plant). It would not be feasible to connect to this plant, and further, the District has no contract for a state surface water supply nor for a federal water supply for direct delivery to water users or groundwater recharge purposes.

6.2 TRANSFER OR EXCHANGE OPPORTUNITIES

The District has no opportunities to exchange or develop transfers of surface water either on a long or short term basis.

6.3 DEVELOPMENT OF DESALINATED WATER

There are no viable sources of salt water within the District's service area and therefore no opportunities for the development of this source. The area is not underlain by perched water nor is it near a body of saline surface water.

6.4 WATER RECYCLING

Water from the City of Arvin's sewage treatment facility is recycled for irrigation of forage crops on lands west of the District. This use of the recycled water generated from the District's groundwater is used to replace water that would otherwise be pumped from the groundwater basin for irrigation purposes. Therefore the District benefits from the City of Arvin's wastewater program. The wastewater has not been considered a candidate for tertiary treatment for reapplication on lands within the District's service area.

Table 29
Standard Table 6-2 Wastewater Collected Within the Service Area in 2015

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
95	Percentage of 2015 service area covered by wastewater collection system					
95	Percentage of 2015 service area population covered by wastewater collection system					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? *(optional)*
Add additional rows as needed						
City of Arvin	Metered	420 mg	N/A		No	
Total Wastewater Collected from Service Area in 2015:		420 mg				
NOTES: The wastewater is applied to forage crops on lands external to the District. Volume estimated by the City.						

No wastewater is treated or disposed of within the District's service area, therefore Standard Tables 6-3, 6-4, 6-5, and 6-6 are not included herein.

The actual water pumped in 2015 is shown on Table 30 below. Table 31 is a projection of future water supply requirements

Table 30
Standard Table 6-8 Water Supplies - Actual

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume (mg)	Water Quality	Total Right or Safe Yield
Groundwater	District Wells	635	Drinking Water	
	Total	635		0
NOTES: 2015 water use reflects the effects of the 2015 water conservation measures.				

Table 31
Standard Table 6-9 Water Supplies - Projected

Table 6-9 Retail: Water Supplies — Projected						
Water Supply	Additional Detail on Water Supply	Projected Water Supply (mg)				
		2020	2025	2030	2035	2040
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Groundwater	Based on 2020 target of 127 gpcd	1,160	1,340	1,550	1,800	2,090
Total		1,160	1,340	1,550	1,800	2,090

6.5 FUTURE WATER PROJECTS

The District is not able to access surface water for meeting its water demands or recharge of groundwater. It must continue to rely on groundwater for its water supplies. Future projects for the District involve replacing old existing wells with new wells that will not require treatment for arsenic or other constituents at this time. Arsenic concentrations are above the maximum concentration limit of 10 ug/l in all of the District's older wells. ACSD is currently under a compliance order from the EPA to solve the problem. Because arsenic concerns, the District applied for a Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84) grant to help it achieve compliance with the order. The District has implemented a plan to drill new replacement wells in areas that exhibit acceptable water quality, including arsenic. This is named the Arsenic Mitigation Project. The first two wells, financed by a Proposition 84 grant, have been drilled, exhibit acceptable domestic water quality (including arsenic), and are to be placed on line in July 2016. Three more wells are planned to be drilled. The District is applying for a State Revolving Fund Loan/Grant for these remaining wells. It is currently performing a Proposition 218 Rate Study in anticipation of increasing the water rates at the District to pay back the loan portion of the funding. The program is estimated to cost about $13,000,000. The District is also exploring other avenues of financing as well.

Other projects include the EPA Replacement Well – as EPA has agreed to replace one of the

District's wells that is in the path of the plume from a Superfund site in the District. The District is looking into the USDA's Rural Community Assistance Program (for which special legislation is required because of Arvin's population). The District also has a Proposition 84 grant to consolidate a small community north of its present boundary (DiGorgio) that has a nitrate water quality problem. This project is known as the Sonshine Properties water project.

The District is currently conducting laboratory testing for treatment of 1-2-3 TCP. This contaminant is common in the District's wells and has been detected in one of the recently-drilled wells. An effort to avoid this contaminant is made on all new District wells. 1-2-3 TCP was a constituent in soil fumigants that were used in the Arvin area in the past, and it is difficult, if not impossible, to avoid. The State is pursuing a mcl for this contaminant, which currently is unregulated. The District is currently in lawsuit with the manufacturers of 1-2-3 TCP. The case should go to trial within a year or two of the date of this writing. Treatment for this contaminant will be initiated once a mcl is established and funding is obtained.

Table 32 below, summarizes the above projects.

Table 32
Standard Table 6-7 Expected Future Water Supply Projects

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
Section 6.5	Narrative located in Section 6.5					
Name of Future Projects or Programs	Joint Project with other agencies?		Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency
Phase 2 of the Arsenic Mitigation Project	No		Three wells to replace the capacity of arsenic-non-compliant wells	2017-2019	Average Year	none
EPA Replacement Well	No		One well to replace the capacity of a well affected by a Superfund Site	2017-2018	Average Year	none
1-2-3 TCP Treatment	No		Treatment to Remove 1-2-3 TCP from the District's Water	T.B.D.	Average Year	none
Sonshine Properties Well	No		New well to supply an existing water system that will annex to the District	2018	Average Year	minimal

6.6 IMPACTS OF CLIMATE CHANGE ON WATER SUPPLY

The District discussed the water supply reliability in Section 6.1, above. Climate change will have an effect on the District's water supply as will the recent passage of the Sustainable Groundwater Management Act. The District has initiated discussions with Arvin Edison Water Storage District in an effort to address these issues. As discussed, AEWSD's groundwater management program has greatly benefitted the groundwater supply.

6.7 GROUNDWATER BASIN MANAGEMENT

The Kern County Groundwater Basin (No. 5-22.14) has been identified as a Critically Overdrafted Groundwater Basin. The Arvin Community Services District does not have a groundwater management plan. However, Arvin Edison Water Storage District does have a plan. The plan may be accessed on line at http://www.water.ca.gov/groundwater/docs/GWMP/TL-2_Arvin-EdisonWSD_GWMP_2003.pdfas. As noted in Section 6.1, above, the groundwater basin has benefitted from AEWSD's program, which has created a sustainable groundwater condition in the aquifer underlying the two districts. A brief discussion of AEWSD's program is in Section 6.1. Detailed information may be found by accessing the on-line plan. ACSD overlies AEWSD's boundary and is located within AEWSD. As a result of SB X7-7, and the effects of the drought, ACSD has conserved over 20% of its water supplies compared to the District's 2013 water use. The water use restrictions that have created this savings will be continued, to a degree, into the future, to assure that the provisions of SB X7-7 are met.

CHAPTER 7

WATER SUPPLY RELIABILITY ASSESSMENT

7.1 WATER SUPPLY RELIABILITY

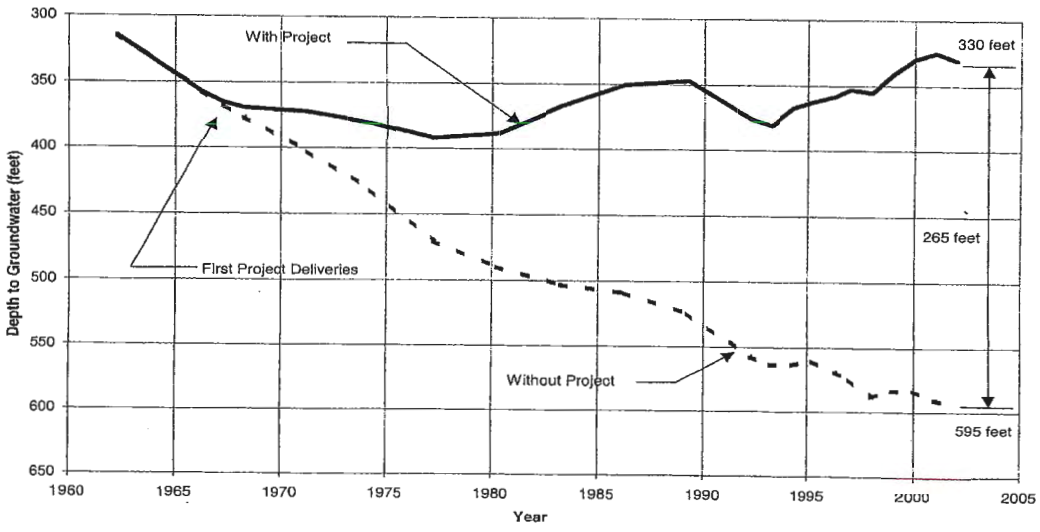
Groundwater provides a medium-to-good quality of water to the area. From the time of the creation of the District until the present, and well into the future, groundwater will be the only source of water for the District.

Section 6.1, above, discusses the AEWSD groundwater management program and the effects that AEWSD's successful program has had on stabilizing groundwater levels within the basin. Groundwater will continue to be a reliable source for the District well into the future because of the effectiveness of AEWSD's program. The following Figure 12, from AEWSD's 2003 Groundwater Management Plan, demonstrates the effectiveness of AEWSD's program. (For brevity in this UWMP, only a few figures and maps are included herein – the Tables and Maps from the Groundwater Management Plan are not included herein, but are available on line, see the on line reference in Section 6.7) The graph in Section 6.1.1, above is an update of this Figure, extended to the year 2015.

Figure 12

Arvin-Edison Water Storage District

AVERAGE STATIC GROUNDWATER DEPTH IN DISTRICT



The effects of drought on groundwater are not directly reflected in the availability of the supply – but rather – in the depth of the groundwater. Pumps must be set deep enough to provide

reliable service in times of extended drought. In extreme cases, the effects of lowering groundwater levels can be that the groundwater drops below the depth of the well itself, and therefore renders the well inoperable. At this time none of the District's wells are in danger of going dry. A single dry year usually has a minimal effect on groundwater levels in Kern County. However, multiple dry years do have an effect and this is due to several reasons: 1. Increased pumping of groundwater by those who have temporarily lost their surface water supplies, 2. Lower groundwater levels resulting from the absence of surface water for direct recharge, 3. Reduced groundwater recharge from excess surface water application to crops and landscaping, and 4. Reduced groundwater recharge due to the absence of rainfall, resulting in reduction or absence of stream and river flows.

Therefore it is necessary that municipal water purveyors that depend on groundwater to assure that adequate groundwater recharge occurs and that wells are sufficiently deep in order to provide water during times of extended drought (occasionally pumps must be lowered in the wells due to changes in groundwater levels.)

The District's existing wells are of varying depths. Well depths, together with the static water levels, are listed below.

Table 32
Current Well Information

Well Identifier	Well Depth (Feet Below Ground Surface)	Static Water Levels (Feet Below Ground Surface)
Well 1	730	No Measurement
Well 5	720	360
Well 6	820	380
Well 8	800	370
Well 10	1000	270
Well 11	1080	480
Well 13	965	430
Well 14	920	380

Note: It is anticipated that Well 1 will be replaced via a grant from the EPA (see Future Projects, Table 30). Wells 5, 6, 8 & 10, will be replaced by Wells 13, 14, 15, and 16.

The effects of multiple dry years is shown on Table 33. The District's wells are deep and perforated at depths that allow pumps to operate in extended periods of drought.

District's existing wells, operating on a 60% production cycle, are capable of providing more than the current water supply requirements. These requirements are based on the District's 2020 Target unit consumption of 127 GPCD.

Table 33
Standard Table 7-1 Basis of Water Year Data

Table 7-1 Retail: Basis of Water Year Data			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2011	980	100%
Single-Dry Year	2015	980	100%
Multiple-Dry Years 1st Year	2012	980	100%
Multiple-Dry Years 2nd Year	2013	980	100%
Multiple-Dry Years 3rd Year	2014	980	100%
Multiple-Dry Years 4th Year	2015	980	100%
NOTES: ACSD is underlain by Arvin-Edison Water Storage District (AEWSD). Ground water levels have remained stable since 1967 because of AEWSD's groundwater management program. The result is that ACSD has a stable groundwater supply and multiple years of drought do not change water levels significantly. Even at reduced capacity due to lower groundwater levels and operating 60% of the time, District's wells can produce twice the amount of water needed.			

The following Tables 34 and 35 show the normal year supply and demand (Table 34), the effects of a single dry year (Table 35) and multiple dry years (Table 36).

Table 34
Standard Table 7-2 Normal Year Supply and Demand

Table 7-2 Retail: Normal Year Supply and Demand Comparison (mg)					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals	1,160	1,340	1,550	1,800	2,090
Demand totals	1,160	1,340	1,550	1,800	2,090
Difference	0	0	0	0	0
NOTES: See notes in Table 7-1R.					

Table 35
Standard Table 7-3 Single Dry Year Supply and Demand

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison (mg)					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (mg)	1,160	1,340	1,550	1,800	2,090
Demand totals (mg)	1,044	1,206	1,395	1,620	1,881
Difference (mg)	116	134	155	180	209
NOTES: For a single dry year, ACSD would implement a 10% voluntary water savings goal.					

Table 36
Standard Table 7-4 Multiple Dry Years Supply and Demand

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison (mg)						
		2020	2025	2030	2035	2040
First year	Supply totals	1,160	1,340	1,550	1,800	2,090
	Demand totals	1,044	1,206	1,395	1,620	1,881
	Difference	116	134	155	180	209
Second year	Supply totals	1,160	1,340	1,550	1,800	2,090
	Demand totals	986	1,139	1,318	1,530	1,777
	Difference	174	201	233	270	314
Third year	Supply totals	1,160	1,340	1,550	1,800	2,090
	Demand totals	870	1,005	1,163	1,350	1,568
	Difference	290	335	388	450	523
NOTES: The first year of the drought ACSD would implement a 10% voluntary water savings goal. The second year of the drought ACSD would implement a 15% mandatory water savings requirement. The third year of the drought ACSD would implement a 25% mandatory water savings requirement.						

Groundwater Quality

The District's old wells contain arsenic at concentrations over the maximum concentration limit of 10 ug/l (which was changed in 2006 from a maximum concentration limit 50 ug/l). Additionally the District has detected 1-2-3 TCP in its wells. See discussion in Section 6.5 (Future Projects). One well, Well 8, is treated for PCE. It has been determined that groundwater of acceptable domestic water quality can be produced in the area. However these wells have to be very carefully constructed.

Drought

It has been previously noted that an extended drought can have an effect on groundwater pumping levels. The District has greatly benefitted from AEWSD's project, which has stabilized groundwater levels in the area. Therefore the District's exposure to effects of drought have been mitigated. However, that is not to say that groundwater levels will not drop due to an extended drought or other impacts reducing importation of surface water – but it is to say that groundwater levels will be much better than they would have been absent AEWSD's program, and the groundwater supply will be sustained – even through an extended period of drought.

CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

8.1 THE PLAN

This Water Shortage Contingency Plan addresses the Arvin Community Services District's (District) policy to reduce water consumption in the community of Arvin during a drought emergency. The District is 100% metered.

The Arvin Community Services District has not experienced a severe water supply shortfall due to a drought in its 58 years of existence because the groundwater resource underlying the District has remained stable as a result of importation of surface water by AEWSD. Therefore the District has been able to pump 100% of its water demand in years of drought. An extended drought increases the possibility that the District will have to lower its pumps. However, the supply would remain relatively stable.

The following is the District's plans to deal with a water shortage in the event of simultaneous dry years and for dealing with a catastrophic event such as the effects of an earthquake

8.2 STAGES OF ACTION

The Plan calls for four stages of action to take place in the event that the State of California declares a drought emergency requiring certain levels of water conservation. While the District's water supply will remain relatively constant because of the availability of ground water, the District is committed to the following water conservation action levels in order to preserve the groundwater resource for the community and its neighbors who also rely on groundwater. The District encourages water conservation as a general practice and views the following actions as steps to be taken in the event of an unusually series of dry years that requires water conservation activities to be implemented over and above the normal water conservation activities.

The District's appended Water Shortage Ordinance lists in detail the four stages of action that will be implemented in a drought emergency situation. Hereon is listed the four general categories of action and the water conservation goal of each stage. Each successive stage implements the conditions of the previous stage(s) so that the effect is accumulative as the Plan progresses through the stages. See the following Table 37.

Table 37
Standard Table 8-1 Stages of Water Shortage Contingency Plan

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction[1]	Water Supply Condition
1	10%	Voluntary. Drought Watch. Based on requirements established by the State.
2	25%	Mandatory. Drought Alert. Second year of a drought. Based on State determination of required reduction.
3	40%	Mandatory. Drought Critical. Third year of a drought. Based on State determination of required reduction.
4	50%	Mandatory. Drought Emergency. Fourth year of a drought. Based on State determination of required reduction.
[1] One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: The water reduction standards would be set by the State and the District would comply with the state's declaration. Groundwater conditions in the district remain relatively stable through periods of drought.		

The plan includes fines for continued violation of the conservation measures, requires that all leaks be repaired in an expeditious manner, restricts filling or re-filling of ornamental ponds, restricts vehicle washing, implements penalties for excessive water use, and at the option of the District's Board of Directors, places a moratorium on new water services. See Table 38.

Table 38
Standard Table 8-2 Restrictions and Prohibitions on End Use

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement?
Add additional rows as needed			
1	Other - Prohibit use of potable water for washing hard surfaces	Voluntary - 10%	No
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Voluntary - 10%	No
1	Landscape - Limit landscape irrigation to specific times	Voluntary - 10%	No
1	CII - Restaurants may only serve water upon request	Voluntary - 10%	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Voluntary - 10%	No
1	CII - Lodging establishment must offer opt out of linen service	Voluntary - 10%	No
2	Water Features - Restrict water use for decorative water features, such as fountains	Mandatory - Up to 25%	Yes
3	Landscape - Other landscape restriction or prohibition	Mandatory - Up to 40%	Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Mandatory - Up to 40%	Yes
4	Landscape - Prohibit all landscape irrigation	Mandatory - Up to 50%	Yes

The following Table 39 presents the consumption reduction methods that the District has put in place for each of the stages of reduction.

Table 39
Standard Table 8-3 Consumption Reduction Methods

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference
Add additional rows as needed		
1	Expand Public Information Campaign	Notices in local paper
1	Offer Water Use Surveys	Meet with individual water users who are in violation
1	Improve Customer Billing	Modify bills to include water use history. Modify billing software to flag higher than normal water use
2	Increase Water Waste Patrols	Develop water patrol schedule
3	Reduce System Water Loss	Reduce response time to shut off line breaks
3	Decrease Line Flushing	
3	Offer Water Use Surveys	Meet with city parks and schools to plan ways to reduce landscape watering
4	Moratorium or Net Zero Demand Increase on New Connections	

8.3 IMPACTS ON REVENUE AND EXPENDITURES

Table 41
Impacts on Revenue with Implementation of Water Shortage Contingency Plan
Revenue Impacts Based on Water Delivery Reductions

Stage	Planned Reduction	Normal Revenue	Reduced Revenue	Financial Impacts
1	10%	$1,740,555	$1,618,699	-$121,856
2	25%	$1,740,555	$1,435,916	-$304,639
3	Up to 40%	$1,740,555	$1,253,133	-$487,422
4	Up to 50%	$1,740,555	$1,131,277	-$609,278

Discussion

The District will work to reduce power costs by encouraging water use in off peak periods of the day. Power costs will be reduced due to reduced water deliveries. The District will look for opportunities for cost savings by deferring certain maintenance items that can be temporarily deferred with little impact on District operations. District's operations will be streamlined to the extent that it can be while maintaining the integrity of the system.

The above revenue and expenditure impacts are anticipated for each of the Water Reduction Stages in the Water Shortage Contingency Plan. As noted previously in Section 6.5, the District is presently conducting a Proposition 218 Rate Study with the intent of increasing water rates to the level that will provide the required amounts of income to balance the District's expenses.

Water Shortage Contingency Resolution

A copy of the District's Water Shortage Contingency Resolution is appended.

8.4 CATASTROPHIC SUPPLY INTERRUPTION

8.4.1 Action to Be Undertaken For A Catastrophic Interruption of Water Supplies

The following actions are planned to be implemented in the event of a catastrophic event. The District has prepared an emergency action plan which includes telephone numbers of key personnel, number for emergency responders, a plan for assessing system status and reactivating the system as quickly as possible, and a plan prioritizing the actions that need to be taken during and shortly after an emergency.

- Assess the status of water system / Reactivate as quickly as possible
    - Issue a "Boil Water" notice
    - Isolate broken mains / repair system pipe breaks
    - Assess the condition of water production facilities / repair as necessary / reactivate as quickly as possible / provide water for fire protection / implement emergency system disinfection
    - Utilize District's portable power generators as necessary
- Provide bottled water as necessary
- Communicate with the community through local radio, newspaper, District employees
- Issue emergency water uses restrictions

8.5 MINIMUM SUPPLY FOR THE NEXT THREE YEARS (2017, 2018 & 2019)

As previously stated, the District overlies a groundwater basin that has remained relatively stable over the years due to AEWSD's project. Table 40 below presents the minimum water supply available to the District for the next three years. These numbers represent a 60% well operating cycle with continued reductions in groundwater levels equal to the reductions experience over the past three years (2013 – 2014). These values were reported on the SWRCB Water Supply Self-Certification and Data Submission Form on June 22, 2016.

Table 40
Standard Table 8-4 Minimum Water Supply for the Next Three Years

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply (mg)	1,887	1,887	1,887
NOTES: In accordance with the June 22, 2016 Water Supply Reliability Certification and Data Submission Form.			

CHAPTER 9

DEMAND MANAGEMENT MEASURES

9.1 WATER DEMAND MANAGEMENT MEASURES

The District encourages the conservation of the community's water resources through programs that educate the citizens about water waste and encourage water users to use the water resource wisely. The District has in place a prohibition of water waste that is not contingent on water shortages or drought. It also encourages the active participation of the community to monitor and report water waste to the manager. District staff personally contacts and confers with violators to educate them about wise use of their water supply.

Metering

The District is 100% metered and watches water use – contacting users that have an inordinate amount of water use compared to their historical use. This could be a meter misread, a pipe break on the users' property, or an unattended hose left running in the yard. The District plans to implement a meter testing and replacement program in 2017. Additional programs that the District plans to implement is a distribution-line valve testing and repair/replacement program.

Rate Structure to Encourage Conservation

The District is conducting a Proposition 218 Rate Study and plans to implement a new rate structure in the fall. This rate structure will encourage water savings. However, tiered rate structures to encourage conservation must be based on actual cost of the service and cannot be arbitrarily constructed. The rate structure that will be put before the voters will have a base rate component that will assure that the District's fixed costs are met, and the variable costs of the service will be the actual cost of delivering the water to water users. Conservation will be encouraged through education programs, water patrols, water audits, and customer relations.

Water Audits

The District performed an AWWA Water Audit for the first time as a part of this UWMP. Legislation assures that water audits be conducted annually in the District's system. The water loss calculated from the software indicates a real loss of about 9%. However, some assumptions had to be made in order to perform the audit, and these assumptions will be verified over the coming

years as the water loss program is developed.

Public Education and Outreach

The District Board Meetings are held twice a month on Monday nights. The public is invited to these meetings and often attends. Additionally the District works with the Community Water Center (CWC), a non-profit organization, to get information out about the status of the District's programs. CWC often attends the Board Meetings. The District also works with the Rural Community Water Center (RCAC), a non-profit organization, also involved in the city, and is often at the Board Meetings. Occasionally the District holds community meetings with State Water Boards or EPA to communicate the status of the several projects that the District is conducting with both agencies.

The District also communicates with water users via their water bills, usually limited messages about saving water, water quality efforts, etc. Nearly all water users pay their bills over the counter at the District Office and there they can ask questions about their bills, about the District's programs, or comment on their observations of people wasting water in the community.

The District also has three vending machines installed at the District Office that dispense arsenic-free water to hand-carried water bottles (1 gallon to 5 gallon size) for people to use for drinking and cooking. There is no cost to the customer. This program was financed by a grant from the Department of Water Resources. Additionally the RCAC installed about 50 point-of-use devices that remove arsenic from the water at the tap on a separate grant from the State Waterboards. The District does the testing of the devices. These are installed in public locations such as schools, libraries and public buildings.

Managing System Losses

The District plans to initiate a main-line valve location and exercising program in the next fiscal year. The issue is that the valve boxes have been covered up by re-paving projects, inattention to maintenance of as-built and facility drawings, so that many of the valves are lost, or when found, do not work. Additionally, the philosophy many years ago was to minimize the number of valves because they required exercising and maintenance to keep them in serviceable shape. The result is that, during a pipe failure event, it is difficult to shut off individual lines because of lost valves or inoperative valves and therefore entire sections of the City must be shut down in order to repair a leak. The Water Audit program described above will also aid in the location of actual water and revenue losses.

Water Conservation

A result of the recent, and prolonged drought is that the residents of Arvin are keenly aware of the impacts of a drought and have been very successful with their water conservation efforts. The District managed to end the year well within its water conservation goal. Residents were advised of required conservation efforts in the local paper, on the water bills and through communication with District Staff. District staff patrolled the neighborhoods and contacted residents who were wasting water or were not complying with the Stage 2 water restrictions. Residents also kept track of each other and reported water wasting to the District so the District staff could make a visit and educate people who were out of compliance. Last year the District was tasked with saving 24% as compared to 2013. For 2016 the District has self-certified a conservation goal of 14% and it will increase every year until 2020, where it will be at the 20% level, as required by SB X7-7.

CHAPTER 10

PLAN ADOPTION, SUBMITTAL AND IMPLEMENTATION

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
City of Arvin	☑	☑
	☐	☐
	☐	☐
County Name	60 Day Notice	Notice of Public Hearing
Kern County	☑	☑
	☐	☐
Arvin-Edison Water Storage District		

Copies of the Notice to the City of Arvin, the County of Kern and Arvin-Edison Water Storage District are appended.

The Notice of Public Hearing published in the Arvin Tiller is appended.

The Public Hearing was held on August 1, 2016, and the plan was adopted that day. The Resolution of Adoption of the 2015 Urban Water Management Plan is also appended.

APPENDICES

- PROOF OF PUBLICATION
- DISTRICT SERVICE MAP
- MINUTES OF THE SPECIAL MEETING OF THE BOARD OF DIRECTORS, AUGUST 1, 2016
- AWWA WATER AUDIT REPORTING WORKSHEET
- WATER SHORTAGE CONTNGENCY PLAN (JULY 2014)
- DROUGHT RESPONSE CONSERVATION PROGRAM

PROOF OF PUBLICATION

PROOF OF PUBLICATION

(2015.5 C.C.P.)
(GENERAL FORM)

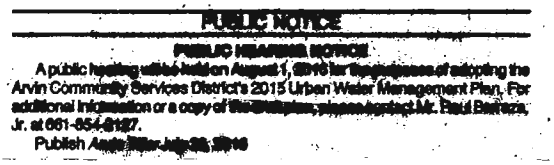
STATE OF CALIFORNIA
County of Kern } ss.

I, the undersigned, am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a part of or interested in the above entitled matter. I am the chief clerk/publisher of *The Arvin Tiller*, a newspaper of general circulation, printed and published weekly, in the City of Arvin, County of Kern, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court order number 37403, of the County of Kern; that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and in any supplement thereof on the following dates, to-wit: July 20, 2016

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Diane Davis
(Signature)

Executed on 7-20 16
at Arvin, California


PUBLIC NOTICE

PUBLIC HEARING NOTICE

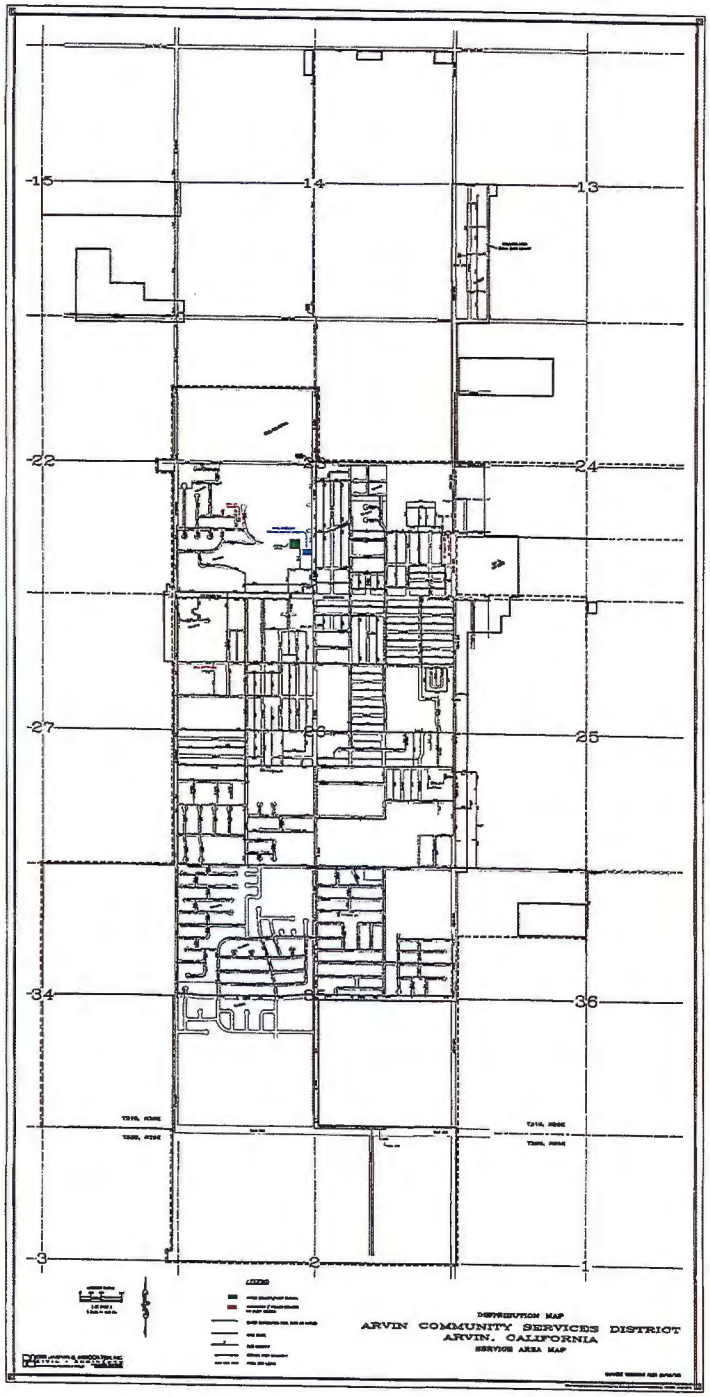
A public hearing will be held on August 1, 2016 for the purposes of adopting the Arvin Community Services District's 2015 Urban Water Management Plan. For additional information or a copy of the Ordinance, please contact Mr. Paul Barrera, Jr. at 661-854-3127.

Publish Arvin Tiller July 20, 2016

The *ARVIN TILLER*
PO Box 1600
Shafter, CA 93263

Phone (661) 746-4942

DISTRICT SERVICE MAP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DISTRIBUTION MAP
ARVIN COMMUNITY SERVICES DISTRICT
ARVIN, CALIFORNIA
SERVICE AREA MAP

MINUTES OF THE SPECIAL MEETING OF THE BOARD OF DIRECTORS

AUGUST 1, 2016

MINUTES OF THE REGULAR MEETING OF
THE BOARD OF DIRECTORS
ARVIN COMMUNITY SERVICES DISTRICT
August 1, 2016

The Board of Directors of the Arvin Community Services District duly met at a Regular Board Meeting held on August 1, 2016 at the hour of 6:00 p.m. at 309 Campus Drive Arvin, CA 93203.

The meeting was called to order by Board Vice President Alvarez at 6:00p.m.

Directors Present: Carlos, Gallardo, Moreno, Alvarez,

Directors Absent: Reyna

Others Present: Raul Barraza Jr, General Manager, Larry F. Pennell District's Consultant- Legal Counsel Alan Peake, and public.

Pledge of allegiance: The Pledge was led by Board Vice- President Alvarez.

1. Public Comment:

Sal Partida wanted to know what was the update on the EPA application for well replacement #1. District Counsel and District Engineer both commented that the district and parties involved will be having a meeting soon to discuss proposed project budget.

2. Consent Calendar:

A motion was made by Director Moreno, Second by Director Carlos, to approve the minutes for the regular Meeting of July 18, 2016. The motion was carried by the following votes:

AYES:	Carlos, Gallardo, Moreno, Alvarez.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Reyna.

3. Accounts Payables: Board to discuss and take action on Accounts Payable:

A motion was made by Director Moreno, Second by Director Gallardo, to approve accounts payable for July/Aug 2016. The motion was carried by the following votes:

AYES:	Carlos, Gallardo, Moreno, Alvarez.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Reyna.

ABSTAIN: None.
ABSENT: Reyna.

8. Report and Possible Adoption re: Resolution 16-10 submit application to Safe Drinking Water State Revolving Fund for Son Shine Properties

After a brief discussion a motion was made by Director Moreno, Second by Director Carlos, to approve the adoption of Resolution 16-10 to Safe Drinking Water State Revolving Fund for Son Shine Properties. The motion was carried by the following votes:

AYES: Carlos, Gallardo, Moreno, Alvarez.
NOES: None.
ABSTAIN: None.
ABSENT: Reyna.

9. Report and Possible Discussion re: acquisition of one-acre parcel at the Northwest corner of Millux Road and Tejon Highway owned by Arnold Cattani, Jr.

10. Staff Comments:

- **General Manager:** GM commented on the meeting held with Kern High School District in regards to helping Arvin High School will have an estimated 36 POU stations and the district will be providing the sampling. SDRMA will be refunding the district with $1,000 for purchasing safety equipment. Also, GM asked for permission to request for RFP's from different accounting firms.
- **District Counsel:** Discussed the state's suggested MCL for 1,2,3 TCP of 5 parts per trillion and stating Todd Robins will be attending next board meeting to present updates on litigation.
- **District Engineer:** Discussed that recent communication with EPA revealed an agreement between EPA and California Department of Toxic Substance control to reimburse or take part for paying for replacement well CW1 and will be in on the phone call. Talked about wells #13 and #14 being ready to be turned on to full automation. Russell Ave project has begun and is on track to complete by 30 days.

11. Board Member Comments:

- **Board Director Moreno:** Stated he wanted to have watering days added to the agenda for the next meeting. He also stated, if wells will be abandoned, if this can be brought in the future for discussion specifically for construction purposes.

12. Closed Session:

A. Conference with Labor Negotiators- Agency Designated Representation General Manager, District Counsel and Management Consultant Larry F. Pennell: Employee Organization Laborers International Local 777 Gov't Code 54957.6

AWWA AUDIT REPORTING SHEET

AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: Arvin Community Services District
Reporting Year: 2015 1/2015 - 12/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Enter grading in column 'E' and 'J'

Master Meter and Supply Error Adjustments

WATER SUPPLIED

				Pcnt:		Value:	
Volume from own sources:	6	634.868	MG/Yr	2		-12.956	MG/Yr
Water imported:	5	0.000	MG/Yr				MG/Yr
Water exported:	5	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 647.824 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	6	577.359	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	5	0.000	MG/Yr			
Unbilled unmetered:		8.098	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 585.457 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 62.367 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		1.620	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	4	0.000	MG/Yr			MG/Yr
Systematic data handling errors:		1.443	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 3.063 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 59.304 MG/Yr

WATER LOSSES: 62.367 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 70.465 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	4	58.0	miles
Number of active AND inactive service connections:	6	3,776	
Service connection density:		65	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	65.0	psi

COST DATA

Total annual cost of operating water system:	10	$1,975,557	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$1.25	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$995.27	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 59 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

WATER SHORTAGE CONTINGENCY PLAN

ARVIN COMMUNITY SERVICES DISTRICT

WATER SHORTAGE CONTINGENCY PLAN

JULY 2014

This Water Shortage Contingency Plan addresses the Arvin Community Services District's (District) policy to reduce water consumption in the community of Arvin during a drought emergency. The District is 100% metered.

The Arvin Community Services District has not experienced a severe water supply shortfall due to a drought in its 58 years of existence because the groundwater resource underlying the District has remained stable. This is due to the importation of surface water from the Central Valley Project via the Friant-Kern Canal. The Arvin-Edison Water Storage District (Arvin-Edison) was created for that purpose. The community is within the boundaries of Arvin-Edison and pays for groundwater benefits through ad valorem taxes levied on properties in the community. Arvin-Edison imports surface water for irrigation and operates a very successful groundwater recharge program several miles east and uphill from the community. This has resulted in a relatively stable groundwater resource for the community of Arvin. As a result the community is able to pump 100% of its water demand in years of drought. An extended drought would cause the District to lower its pumps in its wells due to lowering water levels, but the supply would remain relatively stable.

The following is the District's plans to deal with a water shortage in the event of simultaneous dry years and for dealing with a catastrophic event such as the effects of an earthquake.

Water Shortage Contingency Plan

Section 1. Stages of Action

The Plan calls for four stages of action to take place in the event that the State of California declares a drought emergency requiring certain levels of water conservation. While the District's water supply will remain relatively constant because of the availability of ground water, the District is committed to the following water conservation action levels in order to preserve the groundwater resource for the community and its neighbors who also rely on groundwater. The District encourages water conservation as a general practice and views the following actions as steps to be taken in the event of an unusually series of dry years that requires water conservation activities to be implemented over and above the normal water conservation activities.

The District's appended Water Shortage Ordinance lists in detail the four stages of action that will be implemented in a drought emergency situation. Hereon is listed the four general categories of action and the water conservation goal of each stage. Each successive stage implements the conditions of the previous stage(s) so that the effect is accumulative as the Plan progresses through the stages.

Table 1. Stages of Action

Stage Level	Description	Action	Water Reduction Goal	Applicability
1	Drought Watch	Public Awareness / Education	Up to 10%	Voluntary
2	Drought Alert	Limits on Duration of Landscape Irrigation	Up to 25%	Mandatory
3	Drought Critical	Limits on Days of Landscaping Irrigation / Possible Water Allocation	Up to 40%	Mandatory
4	Drought Emergency	Cease Lawn Watering / Limit Watering of Trees and Ornamentals	Up to 50%	Mandatory

The plan includes fines for continued violation of the conservation measures, requires that all leaks be repaired in an expeditious manner, restricts filling or re-filling of ornamental ponds, restricts vehicle washing, implements penalties for excessive water use, and at the option of the District's Board of Directors, places a moratorium on new water services.

Section 2. Estimated Minimum Available Water Supply for a Three-Year Period

As previously stated, the District overlies a groundwater basin that has remained relatively stable over the years due to recharge activities by Arvin-Edison Water Storage District.

The following is a tabulation of water deliveries for the years 2010 – 2013.

Table 2. Historic Water Deliveries (acre-feet)

Source	2010	2011	2012	2013	Average
Groundwater	3,073	3,032	3,217	3,252	3,144

It should be noted that water deliveries are increasing at a rate of about 73 acre-feet per year (about 2.2% annually) due to growth in the community.

The three-year dry period selected for the drought conditions is the period 1931-1934.

Table 3. Supply Reliability Estimates (acre-feet)

Projected Demands (2.2% Growth)	**Single Dry Year**	**Multiple Dry Water Years**			
2014	2014	2014	2015	2016	2017
3,324	3,324	3,324	3,397	3,472	3,548
% of Average Year	100%	100%	100%	100%	100%

Table 4. Projected 2014 Water Deliveries with Drought Reductions (acre-feet)

Projected 2014 Deliveries with % Reductions Indicated				
Projected 2014 Deliveries No Reduction	**With 10% Reduction**	**With 25% Reduction**	**With 40% Reduction**	**With 50% Reduction**
3,324	**2,992**	**2,493**	**1,994**	**1,662**

Section 3. Actions to be Undertaken for a Catastrophic Interruption of Water Supplies

The following actions are planned to be implemented in the event of a catastrophic event. The District has prepared an emergency action plan which includes telephone numbers of key personnel, number for emergency responders, a plan for assessing system status and reactivating the system as quickly as possible, and a plan prioritizing the actions that need to be taken during and shortly after an emergency.

- Assess the status of water system / Reactivate as quickly as possible
  - Issue a "Boil Water" notice
  - Isolate broken mains / repair system pipe breaks
  - Assess the condition of water production facilities / repair as necessary / reactivate as quickly as possible / provide water for fire protection / implement emergency system disinfection
  - Utilize District's portable power generators as necessary
- Provide bottled water as necessary

- Communicate with the community through local radio, newspaper, District employees
- Issue emergency water uses restrictions

Discussion

The District will work to reduce power costs by encouraging water use in off peak periods of the day, and power costs will reduce due to reduced water deliveries. The District will look for opportunities for cost savings by deferring certain maintenance items that can be temporarily deferred with little impact on District operations. District's operations will be streamlined to the extent that it can be while maintaining the integrity of the system. The District will seek sources of emergency funding that may become available to help finance operation of the District. When all cost saving measures are implemented and all sources of financial assistance are exhausted, and if the need for revenue is greater than the funds generated by the reduced water sales, consideration will be given to temporarily adjusting the District's rate structure to develop the needed financial resources for maintaining reliable water service.

Section 4. Assessment of the Impacts of Implementation of the Water Shortage Contingency Plan

A tabulation of the impacts of implementation of the Water Shortage Contingency Plan follows.

Table 5. Impacts on Revenue with Implementation of Water Shortage Contingency Plan

Revenue Impacts Based on 2014 Water Delivery Projection (2.2% Increase)

Stage	Planned Reduction	Normal Revenue	Reduced Revenue	Financial Impacts
1	10%	$1,740,555	$1,618,699	-$121,856
2	25%	$1,740,555	$1,435,916	-$304,639
3	Up to 40%	$1,740,555	$1,253,133	-$487,422
4	Up to 50%	$1,740,555	$1,131,277	-$609,278

DROUGHT RESPONSE CONSERVATION PROGRAM

ORDINANCE NO. _____

AN ORDINANCE OF THE ARVIN COMMUNITY SERVICES DISTRICT ADOPTING A DROUGHT RESPONSE CONSERVATION PROGRAM

WHEREAS, article X, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare; and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to the public health, safety and welfare; and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq. authorize water suppliers to adopt and enforce a comprehensive water conservation program; and

WHEREAS, adoption and enforcement of a comprehensive water conservation program will allow the District to delay or avoid declaring a water shortage emergency as authorized by California Water Code sections 350 et seq.; and

WHEREAS, the District has adopted a Water Shortage Contingency Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions. This Ordinance is intended to be consistent with and to implement the Water Shortage Contingency Plan; and

WHEREAS, the Water Shortage Contingency Plan contains four stages containing actions to be taken to lessen or avoid supply shortages. This Ordinance contains drought response stages that correspond with the Water Shortage Contingency Plan stages; and

WHEREAS the water conservation measures and progressive restrictions on water use and method of use identified by this Ordinance provide certainty to water users and enable the District to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public.

NOW, THEREFORE, the Board of Directors of Arvin Community Services District does ordain as follows:

SECTION 1.0 DECLARATION OF NECESSITY AND INTENT

(a) This Ordinance establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable method of use of water within the District in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

(b) This Ordinance establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four stages of drought response actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening drought conditions and decreasing available supplies.

(c) Stage 1 condition drought response measures are voluntary and will be reinforced through local public education and awareness measures that may be funded in part by District. During drought response condition Stages 2 through 4, all conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals.

(d) During a Drought Response Stage 2 condition or higher, the water conservation measures and water use restrictions established by this Ordinance are mandatory and violations are subject to criminal, civil, and administrative penalties and remedies specified in this Ordinance.

SECTION 2.0 DEFINITIONS

(a) The following words and phrases whenever used in this chapter shall have the meaning defined in this section:

1. "Grower" refers to those engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced: (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market.

2. "District" means the Arvin Community Services District.

3. "WSCP" means the District's Water Shortage Contingency Plan in existence on the effective date of this Ordinance and as readopted or amended from time to time, or an equivalent plan of the District to manage or allocate supplies during shortages.

4. "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the District.

SECTION 3.0 APPLICATION

(a) The provisions of this Ordinance apply to any person in the use of any water provided by the District.

(b) This Ordinance is intended solely to further the conservation of water. It is not intended to implement any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff. Refer to the local jurisdiction or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.

(c) Nothing in this Ordinance is intended to affect or limit the ability of the District to declare and respond to an emergency, including an emergency that affects the ability of the District to supply water.

(d) The provisions of this Ordinance do not apply to use of water from private wells or to recycled water.

SECTION 4.0 DROUGHT RESPONSE STAGE 1 – DROUGHT WATCH CONDITION

(a) A Drought Response Stage 1 condition is also referred to as a "Drought Watch" condition. A Stage 1 condition applies when due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands. The District's Board of Directors shall declare the existence of a Drought Response Stage 1 and take action to implement the Stage 1 conservation practices identified in this Ordinance.

(b) During a Stage 1 Drought Watch condition, District will increase its public education and outreach efforts to emphasize increased public awareness of the need to implement the following water conservation practices. [The same water conservation practices become mandatory if the District's Board of Directors declares a Stage 2 Drought Alert condition]:

1. Stop washing down paved surfaces, including but not limited to sidewalks, driveways, parking lots, roadways, or patios, except when it is necessary to alleviate safety or sanitation hazards.

2. Stop watering unpaved drive approaches and driveways, except when it is necessary to alleviate safety or sanitation hazards.

3. Stop water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, or overspray, etc. Similarly, stop water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, private and public walkways, patios, lots, hardscapes, roadways, or structures.

4. Irrigate residential and commercial landscape before 10 a.m. and after 6 p.m. only.

5. Use a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.

6. Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time. Watering of livestock is permitted at any time.

7. Use re-circulated water to operate ornamental fountains.

8. Wash vehicles using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site. Avoid washing during hot conditions (over 95 degrees) when additional water is required due to evaporation.

9. Serve and refill water in restaurants and other food service establishments only upon request.

10. Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily.

11. Repair all water leaks within three (3) days of notification by the District unless other arrangements are made with the General Manager.

12. Use recycled or non-potable water for construction purposes when available.

(c) During a Drought Response Stage 2 condition or higher, all persons shall be required to implement the conservation practices established in a Drought Response Stage 1 condition.

SECTION 5.0 DROUGHT RESPONSE STAGE 2 – DROUGHT ALERT CONDITION

(a) A Drought Response Stage 2 condition is also referred to as a "Drought Alert" condition. A Stage 2 condition applies when caused by drought or other reduction in supplies, a consumer demand reduction of up to 25 percent is required in order to have sufficient supplies available to meet anticipated demands. The District's Board of Directors shall declare the existence of a Drought Response Stage 2 condition and implement the mandatory Stage 2 conservation measures identified in this Ordinance.

(b) All persons using District water shall comply with Stage 1 Drought Watch water conservation practices during a Stage 2 Drought Alert, and shall also comply with the following additional conservation measures:

1. Limit residential and commercial landscape irrigation to no more than the assigned days per week on a schedule established by the District's Board of Directors and posted by the District.

2. Limit lawn watering and landscape irrigation using sprinklers to no more than ten (10) minutes per watering station per assigned day. This provision does not apply to landscape irrigation systems using water efficient devices, including but not limited to: weather based controllers, drip/micro-irrigation systems and stream rotor sprinklers.

3. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 5 (b) (1), on the same schedule set forth in section 5 (b) (1) by using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

4. Repair all leaks within forty-eight (48) hours of notification by the District unless other arrangements are made with the General Manager.

5. Stop operating ornamental fountains or similar decorative water features unless recycled water is used.

SECTION 6.0 DROUGHT RESPONSE STAGE 3 – DROUGHT CRITICAL CONDITION

(a) A Drought Response Stage 3 condition is also referred to as a "Drought Critical" condition. A Stage 3 condition applies when the District notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent is required in order to have sufficient supplies available to meet anticipated demands. The District's Board of Directors shall declare the existence of a Drought Response Stage 3 condition and implement the Stage 3 conservation measures identified in this Ordinance.

(b) All persons using District water shall comply with Stage 1 Drought Watch and Stage 2 Drought Alert water conservation practices during a Stage 3 Drought Critical condition and shall also comply with the following additional mandatory conservation measures:

1. Limit residential and commercial landscape irrigation to no more than three (3) assigned days per week on a schedule established by the District's Board of Directors and posted by the District. During the months of December through April, landscape irrigation is limited to no more than once per week on a schedule established by the District's Board of Directors and posted by the District. This section shall not apply to commercial growers or nurseries.

2. Water landscaped areas, including trees and shrubs located on residential and commercial properties, and not irrigated by a landscape irrigation system governed by section 6 (b) (1), on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation.

3. Stop filling or re-filling ornamental lakes or ponds, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a drought response stage under this Ordinance.

4. Stop washing vehicles except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems.

5. Repair all leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

(c) The District may establish a water allocation for property served by the District using a method that does not penalize persons for the implementation of conservation methods or the installation of water saving devices. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty in an amount established by Resolution for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this Ordinance.

SECTION 7.0 DROUGHT RESPONSE STAGE 4 – DROUGHT EMERGENCY CONDITION

(a) A Drought Response Stage 4 condition is also referred to as a "Drought Emergency" condition. A Stage 4 condition applies when the District's Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 which requires a demand reduction of up to 50 percent in order for the District to have maximum supplies available to meet anticipated demands. The District shall declare a Drought Emergency in the manner and on the grounds provided in California Water Code section 350.

(b) All persons using District water shall comply with conservation measures required during Stage 1 Drought Watch, Stage 2 Drought Alert, and Stage 3 Drought Critical conditions and shall also comply with the following additional mandatory conservation measures:

1. Stop all landscape irrigation, except crops and landscape products of commercial growers and nurseries. This restriction shall not apply to the following categories of use unless the District has determined that recycled water is available and may be lawfully applied to the use.

A. Maintenance of trees and shrubs that are watered on the same schedule set forth in section 6 (b) (1) by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation;

B. Maintenance of existing landscaping necessary for fire protection as specified by the Fire Marshal of the local fire protection agency having jurisdiction over the property to be irrigated;

C. Maintenance of existing landscaping for erosion control;

D. Maintenance of plant materials identified to be rare or essential to the well being of rare animals;

E. Maintenance of landscaping within active public parks and playing fields, day care centers, school grounds, cemeteries, and golf course greens, provided that such irrigation does not exceed two (2) days per week according to the schedule established under section 6 (b) (1);

F. Watering of livestock; and

G. Public works projects and actively irrigated environmental mitigation projects.

2. Repair all water leaks within twenty-four (24) hours of notification by the District unless other arrangements are made with the General Manager.

(c) Upon the declaration of a Drought Response Stage 4 condition, no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, except under the following circumstances:

1. A valid, unexpired building permit has been issued for the project; or

2. The project is nccessary to protect the public's health, safety, and welfare; or

3. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of District

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less.

(d) Upon the declaration of a Drought Response Stage 4 condition, the District will suspend consideration of annexations to its service area.

(e) The District may establish a water allocation for property served by the District. If the District establishes a water allocation it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Following the effective date of the water allocation as established by the District, any person that uses water in excess of the allocation shall be subject to a penalty in an amount established by the District's Board of Directors for each billing unit of water in excess of the allocation. The penalty for excess water usage shall be cumulative to any other remedy or penalty that may be imposed for violation of this Ordinance.

SECTION 8.0 CORRELATION BETWEEN DROUGHT MANAGEMENT PLAN AND DROUGHT RESPONSE STAGES

(a) The correlation between the District's WSCP stages and the District's drought response stages identified in this Ordinance is described herein. Under WSCP Stage 1, the District would implement Drought Response Stage 1 actions. Under WSCP Stage 2, the District would implement Drought Response Stage 1 or Stage 2 actions. Under WSCP Stage 3, the District would implement Drought Response Stage 2, Stage 3, or Stage 4 actions.

(b) The drought response stages identified in this Ordinance correspond with the District's WSCP as identified in the following table:

Drought Response Stages	Use Restrictions	Conservation Target	WSCP Stage
1 - Drought Watch	Voluntary	Up to 10%	Stage 1
2 - Drought Alert	Mandatory	Up to 25%	Stage 2
3 - Drought Critical	Mandatory	Up to 40%	Stage 3
4 - Drought Emergency	Mandatory	Above 40%	Stage 4

SECTION 9.0 PROCEDURES FOR DETERMINATION AND NOTICATION OF DROUGHT RESPONSE STAGE

(a) The existence of a Drought Response Stage 1 condition may be declared by the District's Board of Directors. The General Manager may publish a notice of the determination of existence of Drought Response Stage 1 condition in one or more newspapers, including a newspaper of general circulation within the District. The District may also post notice of the condition at the District's Office and/or provide direct notice to its customers.

(b) The existence of Drought Response Stage 2 or Stage 3 conditions may be declared by resolution of the District's Board of Directors adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation measures applicable to Drought Response Stage 2 or Stage 3 conditions shall take effect on the tenth (10) day after the date the response stage is declared. Within five (5) days following the declaration of the response stage, the District shall publish a copy of the resolution in a newspaper used for publication of official notices.

(c) The existence of a Drought Response Stage 4 condition may be declared in accordance with the procedures specified in California Water Code sections 351 and 352. The mandatory conservation measures applicable to Drought Response Stage 4 conditions shall take effect on the tenth (10) day after the date the response stage is declared. Within five (5) days following the declaration of the response stage, the District shall publish a copy of the resolution in a newspaper used for publication of official notices. If the District establishes a water allocation, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for on-going water service. Water allocation shall be effective on the fifth (5) day following the date of mailing or at such later date as specified in the notice.

(d) The District's Board of Directors may declare an end to a Drought Response Stage by the adoption of a resolution at any regular or special meeting held in accordance with State law.

(e) Notwithstanding the foregoing provisions of this section, the District may implement Stages 1, 2 or 3 if required to do so by actions of the State or Federal government by acknowledging such a requirement at a regular or special meeting of the Board of Directors and the applicable mandatory conservation measures shall take place ten (10) days after the Board of Directors acknowledgement of same or as required by law. Notice of the effective date of the required stage shall be published in a newspaper used for publication of official notices by the District

SECTION 10.0 HARDSHIP VARIANCE

(a) If, due to unique circumstances, a specific requirement of this Ordinance would result in undue hardship to a person using agency water or to property upon which agency water is used, that is disproportionate to the impacts to District water users generally or to similar property or classes of water uses, then the person may apply for a variance to the requirements as provided in this section.

(b) The variance may be granted or conditionally granted, only upon a written finding of the existence of facts demonstrating an undue hardship to a person using agency water or to property upon with agency water is used, that is disproportionate to the impacts to District water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property.

1. Application. Application for a variance shall be a form prescribed by District and shall be accompanied by a non-refundable processing fee in an amount set by resolution of the District's Board of Directors.

2. Supporting Documentation. The application shall be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

3. Required Findings for Variance. An application for a variance shall be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the District, all of the following:

A. That the variance does not constitute a grant of special privilege inconsistent with the limitations upon other District customers.

B. That because of special circumstances applicable to the property or its use, the strict application of this Ordinance would have a disproportionate impact on the property or use that exceeds the impacts to customers generally.

C. That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect

the ability of the District to effectuate the purpose of this chapter and will not be detrimental to the public interest.

D. That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent or general in nature.

4. Approval Authority. The General Manager shall exercise approval authority and act upon any completed application no later than 15 days after submittal and may approve, conditionally approve, or deny the variance. The applicant requesting the variance shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the mandatory drought response.

5. Appeals to the District's Board of Directors. An applicant may appeal a decision or condition of the General Manager on a variance application to the District's Board of Directors within 10 days of the decision upon written request for a hearing. The request shall state the grounds for the appeal. At a public meeting, the District's Board of Directors shall act as the approval authority and review the appeal de novo by following the regular variance procedure. The decision of the District's Board of Directors is final.

SECTION 11.0 VIOLATIONS AND PENALTIES

(a) Any person, who uses, causes to be used, or permits the use of water in violation of this Ordinance is guilty of an offense punishable as provided herein.

(b) Each day that a violation of this Ordinance occurs is a separate offense.

(c) Administrative fines may be levied for each violation of a provision of this Ordinance as follows:

1. Fifty dollars ($50) for a first violation.
2. One hundred dollars ($100) for a second violation of any provision of this Ordinance within one year.
3. Two hundred fifty dollars ($250) for a third violation any provision of this Ordinance within one year.
4. Five hundred dollars ($500) for each additional violation of this Ordinance within one year.

(d) Violation of a provision of this Ordinance is subject to enforcement through installation of a flow-restricting device in the meter.

(e) Each violation of this Ordinance may be prosecuted as a misdemeanor punishable by imprisonment in the county jail for not more than thirty (30) days or by a fine not exceeding $1,000, or by both as provided in Water Code section 377.

(f) Willful violations of the mandatory conservation measures and water use restrictions as set forth in Section 7.0 and applicable during a Stage 4 Drought Emergency condition may be enforced by discontinuing service to the property at which the violation occurs as provided by Water Code section 356.

(g) All remedies provided for herein shall be cumulative and not exclusive.

SECTION 12.0 EFFECTIVE DATE

This Ordinance is effective immediately upon adoption or as otherwise established by State law for the Arvin Community Services District

PASSED, APPROVED AND ADOPTED this ____ day of _____, 2014 by the following vote:

AYES;

NOES:

ABSTAIN:

ABSENT:

_____
Jude Urueta, President of the
Board of Directors